

TITLE: Engaging Structure for Runner of an Umbrella

FIELD OF THE INVENTION

The present invention relates to an umbrella having the runner,
which can be positioned at the place to maintain the umbrella being
5 opened by a novel and improved structure.

BACKGROUND OF THE INVENTION

It is known that an umbrella includes a runner for controlling
umbrella frame to be opened or closed. In order to keep the umbrella at
10 opening state, a spring bow is applied within shaft for stopping the runner
at upper position around the shaft. The manufacturing procedure for
mounting the spring bow in the shaft is very difficult and the strength of
the shaft will be decreased while it is formed a slot thereon. Moreover,
the spring bow may clip user's finger when he is closing the umbrella.

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SUMMARY OF THE INVENTION

The present invention is to provide an engaging structure for runner
of an umbrella, in which the runner can be engaged around the shaft
without the prior spring bow. Hence, it can be manufactured in ease and
20 will be utilized for people to use conveniently. Now, accompanying
with the following drawings, the character of the present invention will be
described here and after.

BRIEF DESCRIPTION OF THE DRAWINGS

25 Figure 1 is a perspective view showing the engaging structure for
runner according to the present invention.

Figure 2 is an exploded perspective view of Figure 1.

Figure 3 is a plan view showing an umbrella with the runner in closed state according to the present invention.

Figure 4 is a plan view of Figure 3 showing the umbrella being opening.

Figure 5 is a plan view of Figure 4 showing the umbrella being completely opened.

Figure 6 is a plan view showing another embodiment of engaging structure according to the present invention.

Figure 7 is a plan view showing a further embodiment of engaging structure according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Figure 1 to 3, the present invention is to provide an engaging structure for runner of an umbrella, wherein the runner (1) has been provided with several side apertures (11) for receiving a relating ball (12). A sleeve (2) is provided around the runner (1), which includes upper opening (22) and an inner middle edge (21) having smaller diameter relating to the opening (22). The sleeve (2) has an inner low projective ring (23), which can engage with a positioning ring (13) on the runner (1) thereunder. The runner (1) with the sleeve (2) is provided around shaft (3) having an annular convex portion (31).

When to open the umbrella while the runner (1) is moved upward to the position of Figure 4, the runner (1) cannot be moved but the sleeve (2) can be moved upward a little distance to force the projective ring (23) sliding cross the positioning ring (13) and the middle edge (21)

compressing the balls (21) falling into the convex portion (31) of the shaft (3). That obtains a firm engagement for runner with the shaft and maintains the umbrella at a stable opening state without need of a prior spring bow received in the shaft.

- 5 In order to obtain similar engaging purpose, the shaft (3) of the invention can be modified to provide with several grooves (33) relating to the balls (12) as shown in Figure 6. Or two tubes (32) are provided on the shaft (3) at a distance with a convex portion for receiving the balls (12) to engaging the runner (2) for the umbrella at opening state stably.